Permit Writer	Edward Andrews
Email Address	Edward.s.andrews@wv.gov
Company Name	ALCON Research Ltd.
Company ID	011-00201
Permit Number	R13-2820D
Facility Name	Advance Optic Device Center North 011-00201
County	Cabell County
Newspaper	*The Herald-Dispatch*
Company Contact & Email	robbie.louden@alcon.com & Chad.Stutler@alcon.com
Consultant Email Address	N/A
Regional Office	N/A

publish wed Dec 28 2016

30 days Fri Jan 27 2017

emailed Ed re date on draft.

emails prepped

INTERNAL PERMITTING DOCUMENT TRACKING MANIFEST

Company Name Alcon Research Ltd

Permitting Action Number R13-2820D Total Days 66 DAQ Days 20

Permitting Action:

- ○ Permit Determination
- ○ General Permit
- ○ Administrative Update
- ○ Temporary
- ○ Relocation
- ○ Construction
- ○ Modification
- ○ PSD (Rule 14)
- ○ NNSR (Rule 19)

Documents Attached:

- ○ Engineering Evaluation/Memo
- ○ Draft Permit
- ○ Notice
- ○ Denial
- ○ Final Permit/General Permit Registration
- ○ Completed Database Sheet
- ○ Withdrawal
- ○ Letter
- ○ Other *(specify)* _____

Date	From	To	Action Requested
12/22	P Ed	Bw	Please review for release to Public Comment
12/23	Bw	Ed	See Comments - Addition - Cover Notice

NOTE: Retain a copy of this manifest for your records when transmitting your document(s).

Permit / Application Information Sheet
Division of Environmental Protection
West Virginia Office of Air Quality

Company:	Alcon Research, Ltd.			**Facility:**	Lesage
Region:	3	**Plant ID:**	011-00201	**Application #:**	13-2820D
Engineer:	Andrews, Edward S.			**Category:**	
Physical Address:	2 Vision Lane Lesage WV 25537			SIC: [3851] MEASURING, ANALYZING & CONTROLLING INSTRUMENTS - OPHTHALMIC GOODS NAICS: [339113] Surgical Appliance and Supplies Manufacturing	
County:	Cabell				
Other Parties:	ENV_CONT - Louden, Robbie 304-733-1482				

Information Needed for Database and AIRS
No required information is missing.

Regulated Pollutants

CO	Carbon Monoxide	14.460 TPY
PM10	Particulate Matter < 10 um	0.700 TPY
SO2	Sulfur Dioxide	0.200 TPY
VOC	Volatile Organic Compounds (Reactive organic gases)	6.440 TPY
THAP	Total HAP Pollutants	0.150 TPY
NOX	Nitrogen Oxides (including NO, NO2, NO3, N2O3, N2O4, and N2O5)	6.770 TPY
CO2E	Carbon Dioxide Equivalents	10791.250 TPY

Summary from this Permit 13-2820D

Air Programs	Applicable Regulations
NSPS	63 A
SIP	

Fee Program	Fee	Application Type
9M	$4,500.00	MODIFICATION

Notes from Database
Permit Note: The three sterilizing chamber are subject to Subpart O of Part 63. The EtO usage limit excludes the four aeration room from the subpart.

Activity Dates

APPLICATION RECIEVED	10/17/2016
APPLICATION FEE PAID	10/17/2016
ASSIGNED DATE	10/17/2016
APPLICANT PUBLISHED LEGAL AD	10/19/2016
APPLICATION DEEMED COMPLETE	12/02/2016

NON-CONFIDENTIAL

Please note, this information sheet is not a substitute for file research and is limited to data entered into the AIRTRAX database.

Company ID: 011-00201
Company: Alcon Research, Ltd.
Printed: 12/22/2016
Engineer: Andrews, Edward S.

West Virginia Department of Environmental Protection

Earl Ray Tomblin
Governor

Division of Air Quality

Randy C. Huffman
Cabinet Secretary

Permit to Modify

R13-2820D

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

ALCON Research Ltd.
Advance Optic Device Center North
011-00201

William F. Durham
Director

Issued: DRAFT

This permit will supercede and replace Permit R13-2820C.

Facility Location:	2 Vision Lane Lesage, Cabell County, West Virginia 25537
Mailing Address:	Same as Above
Facility Description:	Optic Device Manufacturing Facility
NAICS Codes:	339113
UTM Coordinates:	388.03 km Easting • 4,270.07 km Northing • Zone 17
Permit Type:	Modification
Description of Change:	This action is for the installation of an additional sterilizing chamber with aeration room, a 7.0 MMBtu/hr gas-fired boiler and fire water pump.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

The Source is not subject to 45CSR30.

Table of Contents

1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1S	1E	EO Sterilization Chamber #1	2011	2 Cycles/day	EO Abator (1C)
2S	1E	EO Sterilization Chamber #2	2011	2 Cycles/day	EO Abator (1C)
2S	1E	EO Sterilization Chamber #3	2017	2 Cycles/day	EO Abator (1C)
10S	1E	Aeration Room #1	2011		EO Abator (1C)
11S	1E	Aeration Room #2	2011		EO Abator (1C)
12S	1E	Aeration Room #3	2011		EO Abator (1C)
13S	1E	Aeration Room #4	2017		EO Abator (1C)
3S	2E	Generator Set	2010	250 kW	None
4S	3E	Base Fuel Tank (Belly Tank for Generator)	2010	400 gallon	None
9S	7E	Firewater Pump	2010	110 Bhp	None
5S	4E	Natural Gas Fired Boiler	2010	7.0 MMBtu/hr	None
6S	5E	Natural Gas Fired Boiler	2010	7.0 MMBtu/hr	None
8S	6E	Natural Gas Fired Boiler	2012	7.0 MMBtu/hr	None

2.0. General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NOx**	Nitrogen Oxides
CBI	Confidential Business Information	**NSPS**	New Source Performance Standards
CEM	Continuous Emission Monitor	**PM**	Particulate Matter
CES	Certified Emission Statement	**$PM_{2.5}$**	Particulate Matter less than 2.5 µm in diameter
C.F.R. *or* CFR	Code of Federal Regulations		
CO	Carbon Monoxide	**PM_{10}**	Particulate Matter less than 10µm in diameter
C.S.R. *or* CSR	Codes of State Rules		
DAQ	Division of Air Quality	**Ppb**	Pounds per Batch
DEP	Department of Environmental Protection	**Pph**	Pounds per Hour
		Ppm	Parts per Million
dscm	Dry Standard Cubic Meter	**Ppmv or ppmv**	Parts per Million by Volume
FOIA	Freedom of Information Act		
HAP	Hazardous Air Pollutant	**PSD**	Prevention of Significant Deterioration
HON	Hazardous Organic NESHAP		
HP	Horsepower	**Psi**	Pounds per Square Inch
lbs/hr	Pounds per Hour	**SIC**	Standard Industrial Classification
LDAR	Leak Detection and Repair		
M	Thousand	**SIP**	State Implementation Plan
MACT	Maximum Achievable Control Technology	**SO_2**	Sulfur Dioxide
		TAP	Toxic Air Pollutant
MDHI	Maximum Design Heat Input	**TPY**	Tons per Year
MM	Million	**TRS**	Total Reduced Sulfur
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour	**TSP**	Total Suspended Particulate
		USEPA	United States Environmental Protection Agency
MMCF/hr *or* mmcf/hr	Million Cubic Feet per Hour		
		UTM	Universal Transverse Mercator
NA	Not Applicable	**VEE**	Visual Emissions Evaluation
NAAQS	National Ambient Air Quality Standards	**VOC**	Volatile Organic Compounds
		VOL	Volatile Organic Liquids
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Act W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation*;

2.4. Term and Renewal

2.4.1. This permit supersedes and replaces previously issued Permit R13-2820C. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-2820, R13-2820A, R13-2820B, R13-2820C, R13-2820D, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 10.3.]

2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;

2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;

2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. Emergency

2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.

2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. **[45CSR§13-10.1.]**

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1] ***[State Enforceable Only]***

3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]

3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

[Reserved]

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling

connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language;
2. The result of the test for each permit or rule condition; and,
3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information

includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. *State Enforceable Only.*]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:
Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

If to the US EPA:
Associate Director
Office of Air Enforcement and Compliance Assistance (3AP20)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. Operating Fee

3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the

facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. The permittee shall employ no more than three ethylene oxidize sterilizing chambers (1S, 2S & 7S) at the facility. Such sterilizing shall be installed, operated, and maintained in accordance with the following operational and emission limitations:

a. Each chamber shall not be filled/charged with any more than 16.0 pounds of ethylene oxidized per sterilizing cycle.

b. Each chamber shall not be filled/charged with any more than 25.0 pounds of ethylene oxide per regulatory approval maximum parameter process cycle, cycle development cycles, special test cycles, or sensor calibration cycles.

c. The total amount of ethylene oxidized charged into these chambers shall not exceed more than 19,720 pounds per year.

d. During the sterilization operation, the entire ethylene oxidize steam from the chamber shall be vented to the EtO catalytic abator (1C).

e. Each aeration room shall be vented to EtO catalytic abator at all times when finished product is being degases in the room.

f. The EtO catalytic abator (1C) shall be installed, operated, and maintained in such a manner that this control device shall have an ethylene oxidize reduction efficiency of no less than 99.0%. **[40CFR§§63.362(c)]**

g. Annual emissions of ethylene oxidize from emission point 1E shall not exceed 177.4 pounds per year.

h. The oxidation temperature of the abator (1C) shall not fall below 65^{0}C (149^{0}F) or the minimum oxidation temperature recommended by the abator manufacturer, while the abator is in operation.
[40CFR§§63.363(3)]

i. The catalyst bed in the abator shall be replaced with new catalyst material once every five (5) year, beginning five (5) years after the initial compliance test as required in 4.3.1. of this permit. **[40CFR§§63.363(4)(iii)]**

4.1.2. The following conditions and requirements are specific to the internal combustion engines for the emergency generator set identified as 3S and the firewater pump identified as 9S:

a. The generator set and firewater pump shall be equipped with an engine or engine configuration that has been certified by the manufacturer to comply or conform with either 40 CFR §60.4205(b)(2), which referred to 40 CFR §§89.111 and 112 or 40 CFR Part 60.
[40 CFR §§60.4211(a)(3) and (c)()]

b. There is no time limit on the use of each engine in emergency situations. Each engine can operate for combined non-emergency purposes, which include emergency demand response, maintenance and testing, and other non-emergency use for a maximum of 100 hours per year. Within the 100 hours per year, the engine can only operate:

i. For periods of emergency demand response. Emergency demand response is determined by the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3 or other authorized entity as determined by the Reliability Coordinator; and
[40 CFR §60.4211(f)(2)(ii)]

ii. 50 hours per year for non-emergency use. The non-emergency situations cannot be used for peak shaving or to generate income for the facility to supply power to an electric gird or otherwise supply power as part of a financial arrangement with another entity.
[40 CFR §60.4211(f)(3)]

c. The operating limits imposed in this condition are on a calendar year basis.
[40 CFR §60.4211(f)]

d. Each engine shall be equipped with a non-resettable hour-meter prior to start-up.
[40 CFR §60.4237(a)]

e. Each engine shall be operated and maintained in accordance with the manufacturer's written instructions. The permittee is only authorized to change only those emission-related settings that are permitted by the engine manufacturer. A copy of such instruction shall be permanently maintained on site for the life of the engine.
[40 CFR 60.4211(a)(1) and (a)(2)]

f. engine shall only consume diesel fuel meeting following requirements:

i. Maximum sulfur content of 15 ppm;

ii. Cetane index or aromatic content as follows:

1. A minimum cetane index of 40; or

2. A minimum aromatic content of 35 % by volume.

[40CFR§§80.510(b)]

4.1.3. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]

4.2. Monitoring Requirements

4.2.1. The permittee shall continuously monitor and record the oxidation temperature at the outlet of the catalyst bed using a temperature monitor. Such monitoring is required when the oxidation unit is in operation. From 15-minute or shorter period temperature values, a data acquisition system for the temperature monitor shall compute and record a daily average oxidation temperature.

This temperature monitor shall be install, calibrated, and maintained to be accurate to within $\pm$ 5.6^{0}C ($\pm$ 10^{0}F) to measure the oxidation temperature. The permittee shall verify the accuracy of the monitor twice each calendar year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During this accuracy checking, the probe of the

reference device shall be at the same location as that of the temperature monitor being tested. As an alternative, the accuracy temperature monitor may be verified in a calibrated oven traceable to NIST standards). Records the temperature data, computed daily average oxidation temperature, verification of accuracy checking, and documentation of any maintenance preformed on the monitor shall be maintained in accordance with Condition 3.4.1. of this permit.
[40CFR§§63.364(c), (c)(4) and 367(a)]

4.2.2. For the purposes of demonstrating compliance with the hours of operation limits in condition 4.1.2.c. and 4.1.2.d., the permittee shall record the time, date, length of operation and note the reason each engine operated. Such records shall be maintained in accordance with 3.4.1. of this permit.

4.3. Testing Requirements

4.3.1. After sixty (60) days after start-up of normal production cycles of the sterilizing chamber #3 (7S), the permittee shall conduct an initial compliance demonstration to determine compliance with the reduction efficiency requirement of Condition 4.1.1.d. of this permit. Such demonstration shall be conducted in accordance with the either the California Air Resources Board (CARB) Method 431 or the following procedures to determine the efficiency of the EtO catalytic abator (1C) used to comply with Condition 4.1.1.e. and 40CFR§63.362(c), sterilization chamber vent standard:

a. First evacuation of the sterilization chamber. These procedures shall be performed on an empty sterilization chamber, charged with a typical amount of ethylene oxide, for the duration of the first evacuation under normal operating conditions (i.e., sterilization pressure and temperature).

i. The amount of ethylene oxide loaded into the sterilizer (W_c) shall be determined by either:

1. Weighing the ethylene oxide gas cylinder(s) used to charge the sterilizer before and after charging. Record these weights to the nearest 45 g (0.1 lb). Multiply the total mass of gas charged by the weight percent ethylene oxide present in the gas; or

2. Installing calibrated rotameters at the sterilizer inlet and measuring flow rate and duration of sterilizer charge. Use the following equation to convert flow rate to weight of ethylene oxide:

$$W_c = F_v \times t \times \%EO_v \times \left(\frac{MW}{SV}\right)$$

Where:

W_c = weight of the ethylene oxide charged, g (lb)

F_v = volumetric flow rate, liter per minute (L/min) corrected to 20°C and 101.325 kilopascals (kPa) (scf per minute (scfm) corrected to 68°F and 1 atmosphere of pressure (atm); the flow rate must be constant during time (t)

t = time, min

$\%EO_v$ = volume fraction ethylene oxide

SV = standard volume, 24.05 liter per mole (L/mole) = 22.414 L/mole ideal gas law constant corrected to 20°C and 101.325 kPa (385.32 scf per mole (scf/mole) = scf/mole ideal gas low constant corrected to 68°F and 1 atm).

MW = molecular weight of ethylene oxide, 44.05 grams per grams-mole (g/g-mole) 44.05 pounds per pound-mole (lb/lb-mole)), or

3. Calculating the mass based on the conditions of the chamber immediately after it has been charged using the following equation:

$$W_c = \frac{MW \times \%EO_V \times P \times V}{R \times T}$$

Where:

P = chamber pressure, kPa (psia)

V = chamber volume, litter (L) (ft^3)

R = gas constant, 8.313 L · kPa/g-mole · (10.73 psia · ft^3/mole^{0}R)

T = temperature, K (^{0}R)

Note: if the ethylene oxide concentration is in weight percent, use the following to calculate mole fraction:

$$\%EO_v = \frac{W_{EO}}{W_{EO} + \left(W_x \times \frac{MW}{MW_x}\right)}$$

where:

W_{EO} = weight percent of ethylene oxide

W_x = weight percent of compound in the balance of the mixture

MW_x = molecular weight of compound in the balance gas mixture

ii. The residual mass of ethylene oxide in the sterilizer shall be determined by recording the chamber temperature, pressure, and volume after the completion of the first evacuation and using the following equation:

$$W_r = \frac{MW \times \%EO_V \times P \times V}{R \times T}$$

where:

W_r = weight of ethylene oxide remaining in chamber (after the first evacuation), in g(lb)

iii. Calculate the total mass of ethylene oxide at the inlet to the control device (W_i) by subtracting the residual mass (W_r) as calculated in paragraph (a)(i)(3) of this section from the charged weight (W_c) calculated in paragraph (a)(i)(2) of this section.

iv. The mass of ethylene oxide emitted from the control device outlet (W_o) shall be calculated by continuously monitoring the flow rate and concentration using the following procedure:

1. Measure the flow rate through the control device exhaust continuously during the first evacuation using the procedure found in 40 CFR part 60, appendix A, Test Methods 2, 2A, 2C, or 2D, as appropriate. (Method 2D (using orifice plates or Rootstype meters) is recommended for measuring flow rates from sterilizer control devices.) Record the flow rate at 1-minute intervals throughout the test cycle, taking the first reading within 15 seconds after time zero. Time zero is defined as the moment when the pressure in the sterilizer is released. Correct the flow to standard conditions (20 °C and 101.325 kPa (68 °F and 1 atm)) and determine the flow rate for the run as outlined in the test methods listed in paragraph (b) of this section.

2. Test Method 18 or 25A, 40 CFR part 60, appendix A (hereafter referred to as Method 18 or 25A, respectively), shall be used to measure the concentration of ethylene oxide.

   a. Prepare a graph of volumetric flow rate versus time corresponding to the period of the run cycle. Integrate the area under the curve to determine the volume.

   b. Calculate the mass of ethylene oxide by using the following equation:

$$W_o = C \times V \times \frac{MW}{SV} \times \frac{1}{10^6}$$

Where:

W_o = Mass of ethylene oxide, g (lb)

C = concentration of ethylene oxide om ppmv

V = volume of gas exiting the control device corrected to standard conditions, L (ft^3)

$1/10^6$ = correction factor $L_{EO}/10^6\ L_{TOTAL\ GAS}$ ($ft^3{}_{EO}/10^6\ ft^3{}_{TOTAL\ GAS}$)

v. Calculate the efficiency by using the following equation

$$\%Eff = \frac{W_i - W_o}{W_i} \times 100$$

Where:

%Eff = percent efficiency

W_i = mass flow rate into the control device

W_o = mass flow rate out of the control device

vi. Repeat the procedures in paragraphs (a)(i) through (v) of this section three times. The arithmetic average percent efficiency of the three runs shall determine the overall efficiency of the control device.

vii. Such testing shall be conducted in accordance with Condition 3.3.1. of this permit.

viii. During such testing, records of the oxidation temperature recorded during each of the test runs shall be included as part of the test report.

ix. Records of this testing shall be maintained in accordance with Condition 3.4.1 o this permit.

4.4. Recordkeeping Requirements

4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit, and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

4.4.4. The permittee shall monitor and records the amount of ethylene oxide used at the facility on a monthly and compute the facility's 12 month rolling average use of ethylene oxide. Such records shall be maintained in accordance with Condition 3.4.1. of this permit. **[40CFR§63.367(b)]**

4.4.5. The permittee shall maintain on site documents noting that the engine for the generator set (3S) and Firewater Pump (9S) are certified in accordance with 40 CFR Part 89 for the same model year or the engine conform to the requirements of 40 CFR Part 60. Such records maintain on site for the life of the corresponding engine.

4.5. Reporting Requirements

4.5.1. The permittee shall submit an excess emissions and continuous monitoring system performance and summary report to the Director and the U.S. EPA Administrator for the reporting period of January 1 through June 30 and July 1 through December 31. Such reports shall be delivered or postmarked by the 30th day following the end of the reporting period. This report shall contain the following:

a. If any, deviation of the operating limit defined in Condition 4.1.1.g. of this permit (40CFR§§63.363(3)). This requires the following information to be submitted with the report:

i. The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;

ii. The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

iii. The nature and cause of any malfunction (if known);

iv. The corrective action taken or preventive measures adopted;

v. The nature of the repairs or adjustments to the CMS that was inoperative or out of control;

vi. The total process operating time during the reporting period;

vii. Information of the method used during the verification check of the temperature monitor that was conducted during this reporting period (calibration test reports).

b. If no deviations occurred or monitoring equipment has not been inoperative, repaired, or adjusted during the reporting period, then such information shall be stated in the report.

c. The report shall include the name, title, and signature of the responsible official who is certifying the accuracy of the report.

[40CFR§§63.366(a)(3) and 63.10(c)(5), (8), (10-13)]

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature[1] (please use blue ink) _____ Responsible Official or Authorized Representative _____ Date

Name & Title (please print or type) _____ Name _____ Title

Telephone No. _____ Fax No. _____

---

[1] This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

(ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.

west virginia department of environmental protection

Division of Air Quality
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Charleston, WV 25304
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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.wvdep.org

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-2820D
Plant ID No.:	011-00201
Applicant:	ALCON Research, Ltd.
Facility Name:	ALCON – Advanced Optic Device Center North
Location:	Lesage
NAICS Code:	339113
Application Type:	Modification
Received Date:	October 17, 2016
Engineer Assigned:	Edward S. Andrews, P.E.
Fee Amount:	$4,500.00
Date Received:	October 17, 2016
Completeness Date:	December 2, 2016
Due Date:	March 30, 2016
Newspaper:	*The Herald-Dispatch*
Applicant Ad Date:	October 19, 2016
UTMs:	Easting: 388.0 km Northing: 4,270.1 km Zone: 17
Description:	This action is for the installation of a third sterilizer chamber, one gas-fired boiler, and one firewater pump.

DESCRIPTION OF PROCESS

ALCON Research, Ltd. manufactures optic devices at their Kyle Lane location. Due to site limitations, ALCON has located their packaging and sterilizing operation at One Vision Lane in Lesage, WV, which is just north of their Kyle Lane location. There are no emission sources associated with ALCON manufacturing process except for sterilizing the finished optic devices. ALCON uses an ethylene oxide sterilizer to sterilize the finished product.

At the Advanced Optic Device Center North, ALCON operates two sterilization chambers (1S & 2S). These chambers will be capable of performing two complete cycles per day per chamber. A result of emission control requirements of 40CFR63 Subpart O, these chambers will be vented to a catalytic oxidizer. During the controlled sterilization cycles, six chamber purges (three with nitrogen and three with air) are performed. During these purges, the ethylene oxide gas is exhausted out of the sterilization chamber and piped to the Lesni Catalytic Abatement device, which oxidizes the ethylene oxide to less than 1 ppm.

Once the sterilization cycle is complete, the packaged lenses are removed from the chamber and placed inside one of three aeration rooms to allow for any residual ethylene oxide to be released from the packaged lenses. The sterilizer chamber is in a sealed room with a corresponding aeration room located next to the sterilizer chamber room. An automated transfer system is used to remove the lenses from the chamber and place them in the aeration room.

The Advanced Optic Device Center North has a 250-kW generator and 2 – 7 MMBTU/hr natural gas fired boilers. The generator is used to provide emergency electrical power to the facility whenever there is a disruption of electrical service provided by the local utility company. This generator set is a Caterpillar C9E01717 driven by a 400 hp diesel engine. To condition the indoor air, two – 7 MMBTU boilers are used.

Under Permit R13-2820C, Alcon limits the sterilization operation to only consume 19,720 pounds of ethylene oxide per year. This limit allows Alcon to exclude the aeration rooms as affected sources from Subpart O of Part 63. Alcon intends to continue to operate the facility under this ethylene oxide utilization limit.

For this modification application, Alcon has elected to address emission sources that were installed but not included in any previous applications, which are a firewater pump rated at 110 horsepower and a third 7.0 MMBtu/hr gas fired boiler. In addition, Alcon has proposed to install a third EtO sterilizing chamber with a corresponding aeration room.

SITE INSPECTION

November 2, 2016, the writer conducted a site visit of the facility. Ms. Robbie Louden, Health, Safety & Environmental Specialist, accompanied the writer during this visit. This visit included an in-depth explanation of the sterilization process and associated control device with a walk through of the facility. The additional third boiler and firewater pump are in place and operating at the facility and are being included in this application. Alcon's intends to locate the additional chamber and aeration room next to the other existing chambers, which will be within the footprint of the current building. The writer determined that the location is acceptable for this emission unit.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The writer estimated the carbon monoxide, oxides of nitrogen and VOC emissions from boilers using factors published by the boiler manufacturer. The hourly and annual estimates provided in the table below are for a single 7.0 MMBTU/hr boiler operating 8,760 hours per year.

Table No. 1 – Emissions from One 7.0 MMBtu/hr Boiler using Natural Gas

Pollutant	Emission Factor	Hourly Rate (lb/hr)	Annual Rate (tpy)
PM Filterable/Condensable Fractions	0.0072 lb/MMBtu	0.05	0.22
PM_{10} Filterable/Condensable Fractions	0.0072 lb/MMBtu	0.05	0.22
$PM_{2.5}$ Filterable/Condensable Fractions	0.0072 lb/MMBtu	0.05	0.22
Sulfur Dioxide (SO_2)	0.0006 lb/MMBtu	0.004	0.02
Oxides of Nitrogen (NO_x)	0.093 lb/MMBtu	0.65	2.85
Carbon Monoxide (CO)	0.078 MMBtu	0.55	2.41
Volatile Organic Compounds (VOCs)	0.005 lb/MMBtu	0.04	0.18

Total Hazardous Air Pollutants (HAPs)	0.002 lb/MMBtu	0.01	0.04
Carbon Dioxide Equivalent* (CO_2e)	117.098 lb/MMBtu	819.69	3,590.24

ALCON has elected to only operate the firewater pump to a maximum of 500 hours per year. This requested limit as well as consumed diesel with a maximum sulfur content of 15 ppm were taken into consideration when determining emissions from this firewater pump. Emission estimated for this specific generator set were based on actual performance tests of an identical model engine. Sulfur dioxide emission estimates was based on AP-42 factors that considered the sulfur content of the fuel being consumed. Presented in the following table is a summary of these emission estimates from the engine for the firewater pump.

Table #2 – Emissions from the Firewater Pump Engine

Pollutant	Hourly Rate (lb/hr)	Annual Rate (tpy)
$PM/PM_{10}/PM_{2.5}$	0.073	0.02
SO_2	0.08	0.02
NO_x	1.47	0.37
CO	0.21	0.05
VOCs	0.04	0.01
Total HAPs	0.02	0.02
CO_2e	84.99	21.25

The additional sterilization chamber and corresponding aeration room were proposed in the application to be vented to the existing Leni EtO Abator system with no increase in ethylene oxide usage at the facility. Thus, ALCON proposes no change in the permitted emissions from the EtO Abator.

There is a potential for hourly emissions from the EtO Abator because there is going to be additional source venting to the control device. However, this abator uses a water balancer

(water scrubber) to absorb a slug of ethylene oxide from the chambers during their ethylene oxide purge cycles. Then the scrubber slowly (regulates) the release of ethylene oxide from the water which is sent to the catalytic oxidizer to be destroyed. An ethylene oxide monitor is located in the duct downstream of the balancer to measure the concentration of ethylene oxide being sent to the catalytic oxidizer.

The closed vent system employed at this facility to route the effluent from the sterilizer chambers and aeration room is operated under negative pressure by using vacuums pump. The fugitive from the vacuum pumps are the pump seals. These particular pumps that are used in this vent system are using water seals for the vacuum pumps with the water being routine back to the water balancer which will confined any leakage from the seals back to the EtO Abator. Thus, there is no potential for fugitive emissions from leaks of the closed vent system. In additional to this design, ALCON monitors the indoor air for ethylene oxide where this vent system is located, which includes the outer rooms where the sterilizers and aeration rooms are located within and the location of the EtO Abator.

Presented in the following table is a summary of the facility's total potential to emit:

Table #3 – Summary of Emissions Changes

Pollutant	Change in Hourly Rate (lb/hr)	Change in Annual Rate (tpy)	Facility New Annual Emission Rate (tpy)
$PM/PM_{10}/PM_{2.5}$	0.12	0.24	0.70
SO_2	0.08	0.04	0.20
NO_x	2.12	3.22	6.77
CO	0.76	2.46	14.46
VOCs	0.18	0.19	6.44
Total HAPs	0.03	0.06	0.15
CO_2e	904.59	3,611.49	10,791.25

REGULATORY APPLICABILITY

The proposed new emissions units at this facility will be subject to 45CSR2, 45CSR6, and 45CSR7. The manufacturing process at this facility does not have the potential to emit particulate matter. Therefore, the manufacturing process is exempt from the process weight standard pursuant under 45CSR§7-10.5. The manufacturing process would be subject to the visible emission standard. However, the nature of ALCON's process results in no visible emissions being emitted from the facility.

The catalytic abator does destroy or breaks down ethylene oxide into water vapor and carbon dioxide. This abator is an incinerator and is subject to the emission standard under 45CSR6. By design, this abator does not have any particulate matter just only water, carbon dioxide, trace amounts of unconverted EtO and other products of combustion (i.e. CO, NO_x). Thus, this control device will meet the particulate matter limit under this rule.

Because the modified facility will operate three sterilizers at a non-medical treatment facility, these sterilizers are subject to 40CFR63 Subpart O. ALCON plans to continue to use no more than 19,720 pounds of ethylene oxide per year. Under this subpart, the proposed facility is classified as an area source of hazardous air pollutants (HAPs) and subject to the area source provisions for sterilizers under Subpart O.

This subpart requires area source operators of EtO sterilizers that use more than one ton of EtO per year but less than 10 tons to reduce the amount of EtO emitted by 99%. To meet this emission reduction requirement, ALCON has proposed to use a catalytic abator (catalytic oxidizer). During the initial compliance demonstration, ALCON that the EtO ab abator has a destruction efficiency of 99.999% on September 22, 2012.

Regarding other requirements under Subpart O, ALCON has proposed to continuously monitoring the outlet temperature from the catalyst bed to ensure the vent stream is not falling below the minimum oxidization temperature. To comply with the work practice requirements,

ALCON has elected to replace the catalyst every five years beginning after the initial performance test, which is currently scheduled for June of 2017 to meet this requirement.

The proposed firewater pump set is driven by a compression ignition, internal combustion engine, which was manufactured after 2007. Therefore, this engine is subject to this subpart as defined in 40CFR§§60.4200(2) (Subpart IIII). The displacement of the engine is 1.13 liters per cylinder. This engine is subject to the emission standard of 40 CFR §§60.4205(b), which refers to §§60.4202(a)(2). §§60.4202(a)(2) refers to §§89.112. ALCON provided documentation from John Deere, the engine manufacturer, noting that this model engine conforms to the requirements of 40 CFR Part 60.

The applicant will be required to equip the engine with a non- resettable hour meter and sets strict fuel specifications on the type of diesel fuel to be used in this engine, which is ultra-low sulfur diesel.

Subpart IIII of Part 60 and Subpart O of Part 63 does not required ALCON to obtain an operating permit under Part 70 or 71 by being subject to either one of these regulations. This facility will remain to be classified as a minor source and not subject to 45CSR30, which West Virginia's operating permit program pursuant under Part 70. Therefore, this facility is subject to 45CSR22 and classified as a "9M" source.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The new emission units will not emit any pollutants that aren't already being emitted by another emission source at the facility. Therefore, no information about the toxicity of the hazardous air pollutants (HAPs) is presented in this evaluation.

AIR QUALITY IMPACTS ANALYSIS

The writer deemed that an air dispersion modeling study or analysis was not necessary, because the proposed construction does not meet the definition as a major source as defined in 45CSR14.

MONITORING OF OPERATIONS

The writer recommends no additional monitoring than what is already required by the permit, which is summarized in the following list:

- Tracking ethylene oxide usage;
- Continuously monitoring the outlet temperature of the catalysis bed;
- Recording the hours of operation for the generator set and firewater pump and reason for such operation; and
- Replacing the catalyst bed once every five years.

The new boiler and existing boilers are less than 10 MMBtu/hr and are configured to only operate on natural gas. Rule 2 excludes these units from the Sections 4-6 and 8-9 of 45 CSR 2, which includes the section on testing, monitoring recordkeeping, and reporting for boilers. This writer does not recommend any monitoring for these boilers based on the design heat input and type of fuel being consumed.

The writer has recommended that a compliance demonstration be conducted as result adding this third sterilizer to the EtO Abator. However, this sterilizer with be required to be certified by the Federal Drug Administration (FDA). Part of this certification process will require the chamber to be operated at specific ethylene oxide loading rates to sterilize certain lenses to ensure that the chamber will sterilize the lenses to meets the FDA standards for medical devices, which would not be representative the normal operating cycles. Thus, the writer

recommends requiring within 60 days after starting normal operating cycles of the third sterilizer.

RECOMMENDATION TO DIRECTOR

The information provided in permit application R13-2820D indicate that compliance with all applicable state rules and federal regulations will be achieved. Therefore, this writer recommends to the Director a modification permit should be issued to ALCON Research, Ltd. for the proposed changes at the Advanced Optic Device Center North Plant in Lesage, WV.

Edward S. Andrews, P.E.
Engineer

Date: December 22, 2016

Andrews, Edward S

From: Andrews, Edward S
Sent: Friday, December 23, 2016 10:52 AM
To: 'Michelle.dixon@alcon.com'
Cc: 'Louden, Robbie'; Stutler, Chad (chad.stutler@alcon.com)
Subject: WV DAQ NSR Permit Application Complete for ALCON Research Ltd. - Advance Optic Device Center North Plant
Attachments: 011-00201_PERM_R13-2820D_draft.docx

RE: Application Status: Complete
ALCON Research Ltd. - Advance Optic Device Center North
Permit Application R13-2820D
Plant ID No. 011-00201

Ms. Dixon:

Your application for a modification permit for a optic device manufacturing facility was received by this Division on October 17, 2016, and assigned to the writer for review. Upon review of said application, it has been determined that the application is complete and, therefore, the statutory review period commenced on December 2, 2016.

This determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit determination.

Should you have any questions, please contact me at (304) 926-0499 ext. 1214 or reply to this email.

Sincerely,

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 1214

Andrews, Edward S

From: Andrews, Edward S
Sent: Friday, December 2, 2016 10:13 AM
To: 'Louden, Robbie'
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Thanks,
Ed

From: Louden, Robbie [mailto:robbie.louden@alcon.com]
Sent: Friday, December 2, 2016 9:57 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Good morning, Ed. I just wanted to follow up to confirm the affidavit has been delivered to you.

Thank you,
Robbie

Robbie Louden
Health, Safety & Environment

Alcon Research, LTD.
6065 Kyle Lane, Huntington, WV 25702, USA
T +1 304 733 1482
M +1 304 634 1709
Robbie.Louden@alcon.com

Alcon A Novartis Division

ID # 11-207
Reg R13-2820D
Company Alcon
Facility
Initials

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From: Andrews, Edward S [mailto:Edward.S.Andrews@wv.gov]
Sent: Thursday, December 01, 2016 1:06 PM
To: Louden, Robbie
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Robbie,

Thank-you.

Ed

From: Louden, Robbie [mailto:robbie.louden@alcon.com]
Sent: Thursday, December 1, 2016 12:51 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Hello Ed,

I checked with ERM and they assured me that we will receive the affidavit today. The Herald is sending someone out to hand-deliver it to us. We will then be send into you.

Thank you,
Robbie

Robbie Louden
Health, Safety & Environment

Alcon Research, LTD.
6065 Kyle Lane, Huntington, WV 25702, USA
T +1 304 733 1482
M +1 304 634 1709
Robbie.Louden@alcon.com

From: Andrews, Edward S [mailto:Edward.S.Andrews@wv.gov]
Sent: Thursday, December 01, 2016 9:43 AM
To: Louden, Robbie
Subject: FW: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Robbie;

I was going back through the application this morning and I was trying to figure out if you had sent me the affidavit of publication.

Would you please get back with me regarding it.

Thanks,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 1214

From: Andrews, Edward S
Sent: Monday, November 14, 2016 9:06 AM
To: 'Louden, Robbie' <robbie.louden@alcon.com>
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Robbie,

I believe that I have some flexibility within the rule to adjust this date. I am thinking when the catalyst has been in for 5 years (I am think it would be June or July of next year). However, I will have to look at the rule a little closer to make sure.

I will get back to you on what date that has to be.

Thanks,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 1214

From: Louden, Robbie [mailto:robbie.louden@alcon.com]
Sent: Friday, November 11, 2016 10:11 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Bush, Greg <greg.bush@alcon.com>
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Hi Ed,

Yes, we can get the EO monitor to meet this monitoring requirements it will take a couple of months to complete. If we go this route would the monitoring system need installed before the permit mod can proceed?

Thanks,
Robbie

Robbie Louden
Health, Safety & Environment

Alcon Research, LTD.
6065 Kyle Lane, Huntington, WV 25702, USA
T +1 304 733 1482
M +1 304 634 1709
Robbie.Louden@alcon.com

Alcon A Novartis Division

From: Andrews, Edward S [mailto:Edward.S.Andrews@wv.gov]
Sent: Wednesday, November 02, 2016 4:13 PM
To: Louden, Robbie
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Robbie,

Thank-you for making the necessary arrangements for my visit today. Looking at the rule very carefully, another *work practice* options is to use or a continuous emission monitoring system (CEMS) and restore the catalyst as soon as practicable but no later than 180 days after data analysis in leiu of once per every five years.

This is the requirements for the EO CEMS under 63.364(e).

Measure and record once per hour the ethylene oxide concentration at the outlet to the atmosphere after any control device according to the procedures specified in §63.365(c)(1). The owner or operator shall compute and record a 24-hour average daily. The owner or operator will install, calibrate, operate, and maintain a monitor consistent with the requirements of performance specification (PS) 8 or 9 in 40 CFR part 60, appendix B, to measure ethylene oxide. The daily calibration requirements of section 7.2 of PS-9 or Section 13.1 of PS-8 are required only on days when ethylene oxide emissions are vented to the control device.

My questions for you is could Alcon get the EO monitor to meet this monitoring requirements and if so how much lead time would be need to make it happen?

Thanks,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 1214

From: Louden, Robbie [mailto:robbie.louden@alcon.com]
Sent: Wednesday, November 2, 2016 10:54 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Hello,

Please find attached the PDF drawings of the sterilization emission source drawing and DWG No. 08054-015.

The affidavit status an PDF drawing of the boilers, generator & fire pump will follow shortly.

Thanks,
Robbie

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Health, Safety & Environment

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Robbie.Louden@alcon.com

From: Andrews, Edward S [mailto:Edward.S.Andrews@wv.gov]
Sent: Monday, October 24, 2016 2:02 PM
To: Louden, Robbie
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Robbie,

I left you a voice message last week concern your application. I just have a couple of additional request beside the affidavit of publication, which are:

1. A revised plot with the approximate location of the emission sources and emission points denoted on it.
2. A legible copy of P-I Diagram of the EO Abatement Plant (DWG No. 08054-015). I would prefer a PDF version of it if possible.
3. Please go into detail how the annual engineering evaluation is allowed under Subpart O as a work practice in 40 CFR 63.363(b)4) in lieu of replacing the catalyst.
4. How much nitrogen is charged into the sterilization chamber during the nitrogen purge?

Also, I would like to visit the Advanced Optical Device Center North in November.

Please response to this email by November 8, 2016.

Sincerely,

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 1214

From: Adkins, Sandra K
Sent: Monday, October 17, 2016 3:27 PM
To: robbie.louden@alcon.com
Cc: McKeone, Beverly D <Beverly.D.Mckeone@wv.gov>; Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

RE: Application Status
Alcon Research, Ltd.
Lesage
Facility ID No. 011-00201
Application No. R13-2820D

Mr. Louden,

Your application for a modification permit for the Advanced Optic Device Center (Lesage facility) was received by this Division on October 17, 2016, and was assigned to Ed Andrews. The following item was not included in the initial application submittal:

Original affidavit for Class I legal advertisement not submitted.
Please use telephone extension 1250 in legal advertisements.

This item is necessary for the assigned permit writer to continue the 30-day completeness review.

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Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Should you have any questions, please contact the assigned engineer, Ed Andrews, at 304-926-0499, extension 1214.

ERM

December 1, 2016

Mr. Ed Andrews
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, West Virginia, 25304

RE: Alcon Research, Ltd.
Lesage, WV
Facility ID No. 011-00201
Application No. R13-2820D

ID # 011-00201
Reg R13-2820D
Company Alcon
Facility Lesage Initials EK

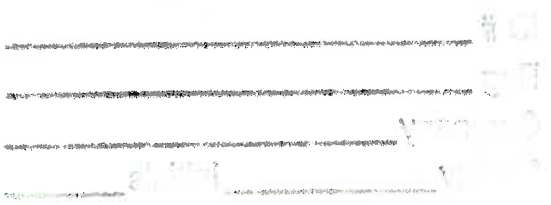
Mr. Andrews,

Please find the enclosed original notarized affidavit and original newspaper clipping of the Air Quality Public Notice for the application for permit modification filed for Alcon Research, Ltd. for the Lesage, WV facility.

Should you have any comments or questions, please contact me at 304-757-4777 x109 or at Grant.morgan@erm.com.

Sincerely,

Grant Morgan
ERM



AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Alcon Research Ltd. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Permit Modification for an Ophthalmic Manufacturing Operation located on 2 Vision Lane, in Lesage, in Cabell County, West Virginia. The latitude and longitude coordinates are: 38.57207 and -82.28468. Start-up of operations is scheduled to begin on January 1, 2017.

The applicant estimates the maximum increase in potential to discharge in the following regulated air pollutants on a facility-wide basis will be:

Nitrogen Oxides (NOx) = 3.21 tpy
Carbon Monoxide (CO) = 2.44 tpy
Particulate Matter (PM) = 0.07 tpy
Volatile Organic Compounds (VOCs) = 0.22 tpy
Sulfur Dioxide (SO2) = 0.07 tpy
Hazardous Air Pollutants (HAPs) = 0.05 tpy
Ethylene Oxide (EO) = 0.05 tpy
Carbon Dioxide Equivalents (CO2e) = 3,448.43 tpy

Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.

Dated this the 19th day of October, 2016.

By:
Alcon Research Ltd.
Michelle Dixon
Plant Manager
2 Vision Lane
Lesage, WV 25537

LH-47316
10-19; 2106

AFFIDAVIT OF PUBLICATION

Linda Losey being duly sworn, depose and say that I am Legal Clerk for *The Herald-*
h, HD Media Co., LLC, who publishes at Huntington, Cabell County, West Virginia, the newspaper *The*
Dispatch, an Independent newspaper, the morning seven days each week, Monday through Sunday
g New Year's Day, Memorial Day, the Fourth of July, Labor Day, Thanksgiving and Christmas; that I
en duly authorized by the Board of Directors of such corporation and the newspaper mentioned herein;
legal advertisement attached in the left margin of this affidavit and made a part herof and bearing number
as duly published in the *The Herald-Dispatch* once a week for 1 successive weeks, commencing with its
10/19/2016 and ending with the issue of 10/19/2016, that said legal advertisement was published on the
g dates: 10/19/2016 that the cost of publishing said annexed advertisement as aforesaid was $ 48.62; that
wspaper in which such legal advertisement was published has been and is now published regularly, at
frequently as once a week for at least fifty weeks during the calendar year as prescribed by its mailing
nd has been so published in the municipality of Huntington, Cabell County, West Virginia, for at least one
mediately preceding the date on which the legal advertisement set forth herin was delivered to such
per for publication; that such newspaper is a newspaper of "general circulation" as defined in article 3
59, of the West Virginia Code within the publication area or areas of the municipality of Huntington,
Putnam and Wayne Counties, West Virginia, and that such newspaper is circulated to the general public at
e price or consideration; that such newspaper on each date published consists of not less than four pages
a cover; and that it is a newspaper to which the general public resorts for passing events of a political,
s, commercial and social nature, and for current happenings, announcements, miscellaneous reading
dvertisements and other notices.

ubscribed and sworn to before me in my said county this day: 10/19/2016

mission expires Jan 6, 2022

Constance S. Rappold
Notary Public
Cabell County, West Virginia

RECEIVED
DEC 02 2016
WV DEP / DIV OF AIR QUALITY

Linda Losey

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Constance S. Rappold
4607 Magazine Avenue
Huntington, WV 25704
My Commission Expires June 6, 2022

Andrews, Edward S

From: Louden, Robbie <robbie.louden@alcon.com>
Sent: Tuesday, November 8, 2016 5:04 PM
To: Andrews, Edward S
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage
Attachments: AODC_N Emissions Permit Drawing 106-00183-0000-Model.pdf

Hello Ed,

Please find attached the PDF drawing of the boilers, generator & fire pump. Please let me know if you need additional information.

Per ERM we're still waiting on the affidavit from the Herald Dispatch.

Thanks,
Robbie

Robbie Louden
Health, Safety & Environment

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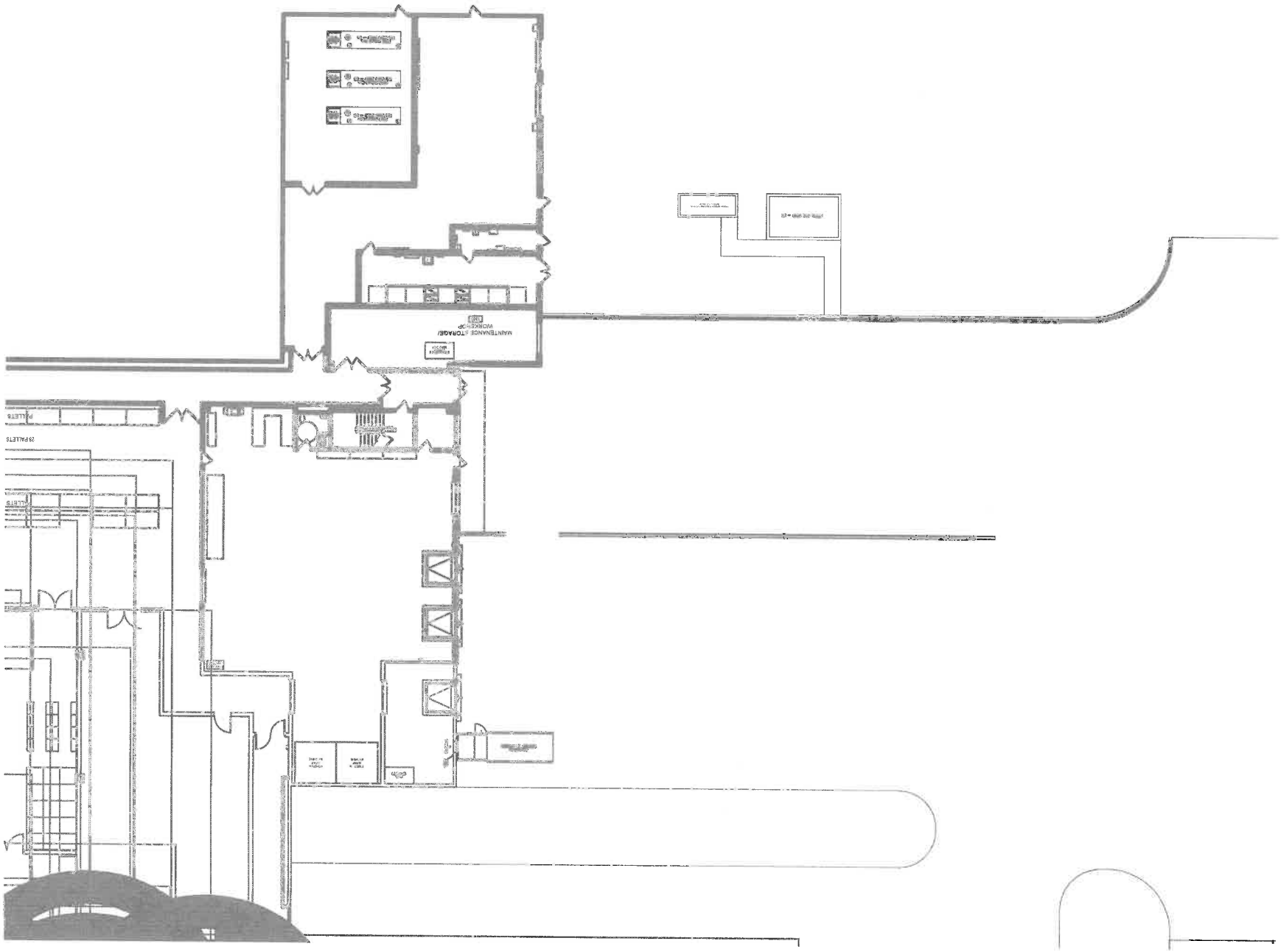

RE: Application Status
Alcon Research, Ltd.
Lesage
Facility ID No. 011-00201
Application No. R13-2820D

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Should you have any questions, please contact the assigned engineer, Ed Andrews, at 304-926-0499, extension 1214.

11/2/16 Alcon R13-2820

Greg; Paul;

- 3 RD – } Just Adding ← later Journey – Must go through EPA Admin.

4th – }

– June 17 – Cat. Replacement:

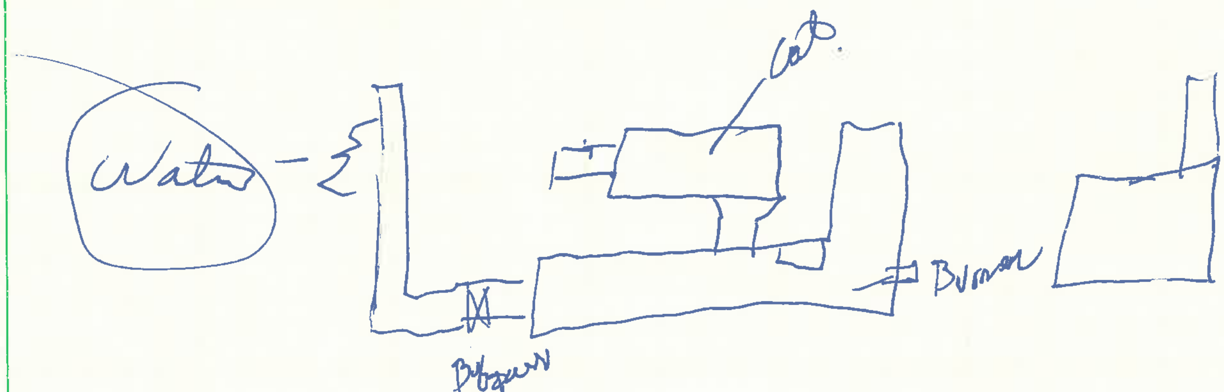
EO sen – mg/l

N_2 gas – purge – ≤3 – EO conc. ___

Air – ≤3

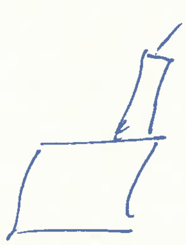
Water –

CO_2 –



water balance tank 6.4g water

≃ 600 gal.



5% LEL

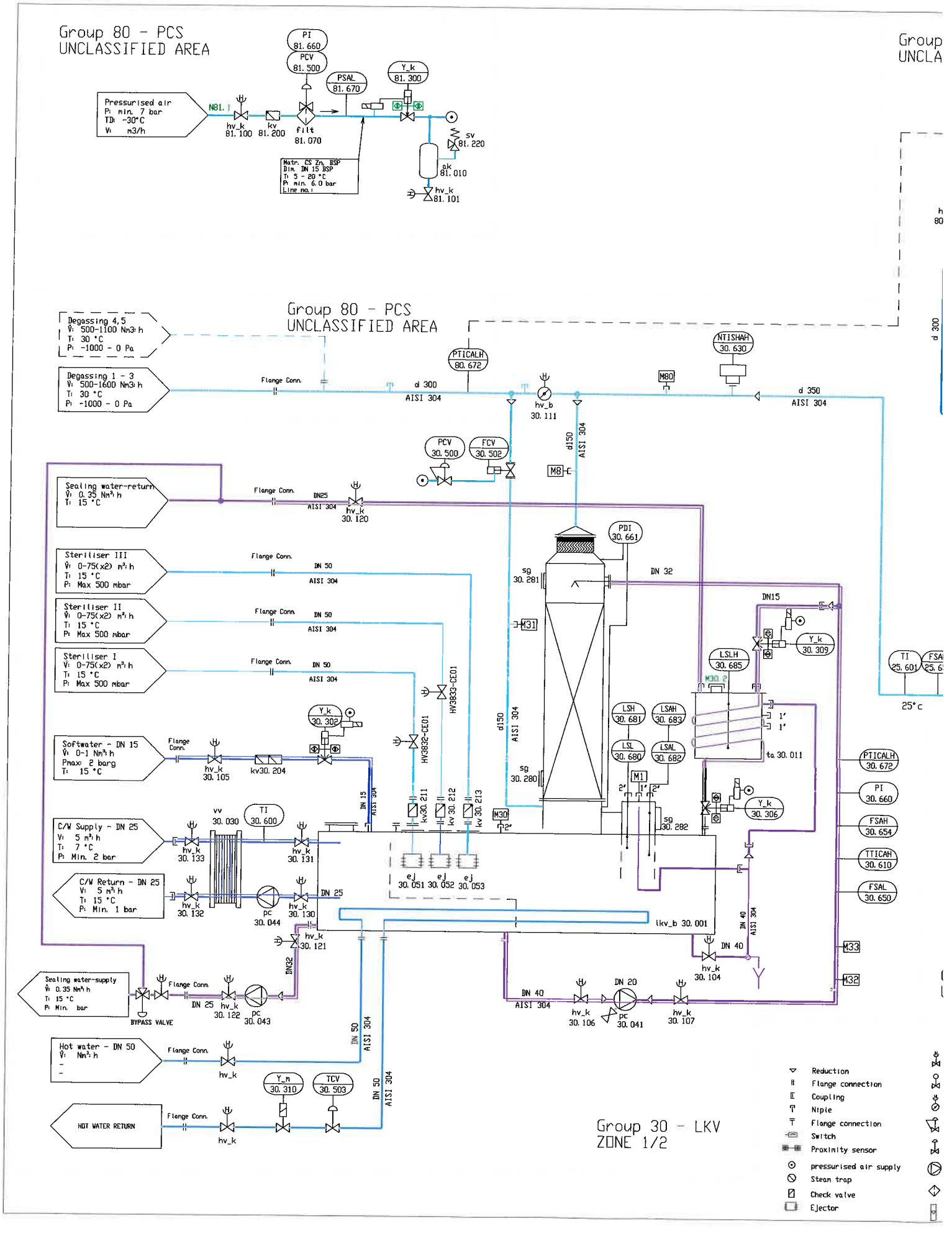
Bypass Valve

Continuous Monitor

Fire Water Pump

79-110 HP.

JU4H-UF58


Group 80 - PCS
UNCLASSIFIED AREA
Pressurised air
P: min. 7 bar
TD: -30°C
V: m3/h
N81.1
hv_k 81.100
kv 81.200
filt 81.070
PI 81.660
PCV 81.500
PSAL 81.670
Y_k 81.300
sv 81.220
ak 81.010
hv_k 81.101
Matr. CS Zn, BSP
Dim. DN 15 BSP
T: 5 - 20 °C
P: min. 6.0 bar
Line no.:
Group 80 - PCS
UNCLASSIFIED AREA
Degassing 4,5
V: 500-1100 Nm3/h
T: 30 °C
P: -1000 - 0 Pa
Degassing 1 - 3
V: 500-1600 Nm3/h
T: 30 °C
P: -1000 - 0 Pa
Flange Conn.
d 300
AISI 304
PTICALH 80.672
hv_b 30.111
M80
NTISHAH 30.630
d 350
AISI 304
PCV 30.500
FCV 30.502
d150
AISI 304
M8
Sealing water-return
V: 0.35 Nm3/h
T: 15 °C
DN25
hv_k 30.120
Sterliser III
V: 0-75(x2) m3/h
T: 15 °C
P: Max 500 mbar
DN 50
Sterliser II
V: 0-75(x2) m3/h
T: 15 °C
P: Max 500 mbar
Sterliser I
V: 0-75(x2) m3/h
T: 15 °C
P: Max 500 mbar
HV3833-CE01
Y_k 30.302
Softwater - DN 15
V: 0-1 Nm3/h
Pmax: 2 barg
T: 15 °C
hv_k 30.105
kv30.204
HV3832-CE01
C/W Supply - DN 25
V: 5 m3/h
T: 7 °C
P: Min. 2 bar
vv 30.030
TI 30.600
hv_k 30.133
hv_k 30.131
kv30.211
kv 30.212
kv 30.213
DN 15
AISI 304
C/W Return - DN 25
V: 5 m3/h
T: 15 °C
P: Min. 1 bar
hv_k 30.132
pc 30.044
hv_k 30.130
DN 25
ej 30.051
ej 30.052
ej 30.053
lkv_b 30.001
hv_k 30.121
DN32
Sealing water-supply
V: 0.35 Nm3/h
T: 15 °C
P: Min. bar
BYPASS VALVE
DN 25
hv_k 30.122
pc 30.043
Hot water - DN 50
V: Nm3/h
DN 50
AISI 304
Y_m 30.310
TCV 30.503
HOT WATER RETURN
PDI 30.661
sg 30.281
DN 32
M31
sg 30.280
sg 30.282
M30
M1
LSH 30.681
LSAH 30.683
LSL 30.680
LSAL 30.682
LSLH 30.685
DN15
Y_k 30.309
Y_k 30.306
ta 30.011
PTICALH 30.672
PI 30.660
FSAH 30.654
TTICAH 30.610
FSAL 30.650
TI 25.601
25°c
DN 40
AISI 304
hv_k 30.104
M33
M32
DN 20
hv_k 30.106
pc 30.041
hv_k 30.107
Group 30 - LKV
ZONE 1/2
Reduction
Flange connection
Coupling
Nipple
Flange connection
Switch
Proximity sensor
pressurised air supply
Steam trap
Check valve
Ejector

LESNI
The Air Purification People

LESNI A/S
Kornmarken 7
DK-7190 Billund
Denmark
Tel.: +45 7533 2500
Fax: +45 7535 3006
info@lesni.com
www.lesni.com

CATALYST EVALUATION

Alcon Research Ltd., Huntington

Analysis of used catalyst – EtO-Abatement-Plant – November 2015

Case no.:	08054
Order no.:	3309
Our ref.:	MMN
Your ref.:	Mr. Paul Dorris
Date:	4th February 2016

CONTENTS

1 OBJECT

The evaluation of the catalyst sample has been completed. The sample was found to be normal in appearance. The chemical, physical analysis and performance testing was conducted on the sample as received.
The results follow.

2 CHEMICAL AND PHYSICAL ANALYSES

Data on general properties of the catalyst sample is given in Table 1.

	Sample
% Mn	40.61
% Oact	13.01
Oact/Mn	1.10
% SO_2	0.19
% SO_4	0.45

Table 1. General Parameters

The chemical and physical analyses indicate that no significant deactivation has occurred.

3 ETHYLENE OXIDE PERFORMANCE TESTING

The catalytic activity of the catalyst sample was determined using our standard EtO efficiency test1. This test is designed to be a sensitive indicator of the condition of the catalyst, and not intended to predict the efficiency of a catalytic incinerator in the field. The catalyst sample was evaluated for EtO destruction performance, as received, at an inlet temperature of 143°C. After completion of the 24 hour performance test, the catalyst sample had an ethylene oxide destruction efficiency of 99.92% which meets the performance specification of 92.24% after 24 hours of testing.

[1] The standard activity test involves passing an air stream containing a known amount of Ethylene Oxide through the bed of the catalyst sample. The ethylene oxide oxidation efficiency of the catalyst is measured as the percentage reduction of the inlet concentration at various catalyst bed temperatures. The standard catalyst test conditions are as given below:

Gas Hourly Space Velocity [Hr.$^{-1}$]	15,000
Linear Velocity [m/s]	0,52
Substrate	Ethylene Oxide
Inlet Temperature [°C]	143
Ethylene Oxide Loading [ppm]	1000

The ethylene oxide concentration was determined with a THERMO ENVIRONMENTAL INSTRUMENTS TVA 1000 hydrocarbon analyzer that utilizes flame ionization as the principle of detection.

4 CONCLUSION

The results of the performance evaluation of the CARULITE 500 catalyst sample, as received, indicates that the catalyst meets our performance specifications for EtO destruction. Continued use of the catalyst should provide acceptable destruction of EtO in a properly designed and properly operated abator.

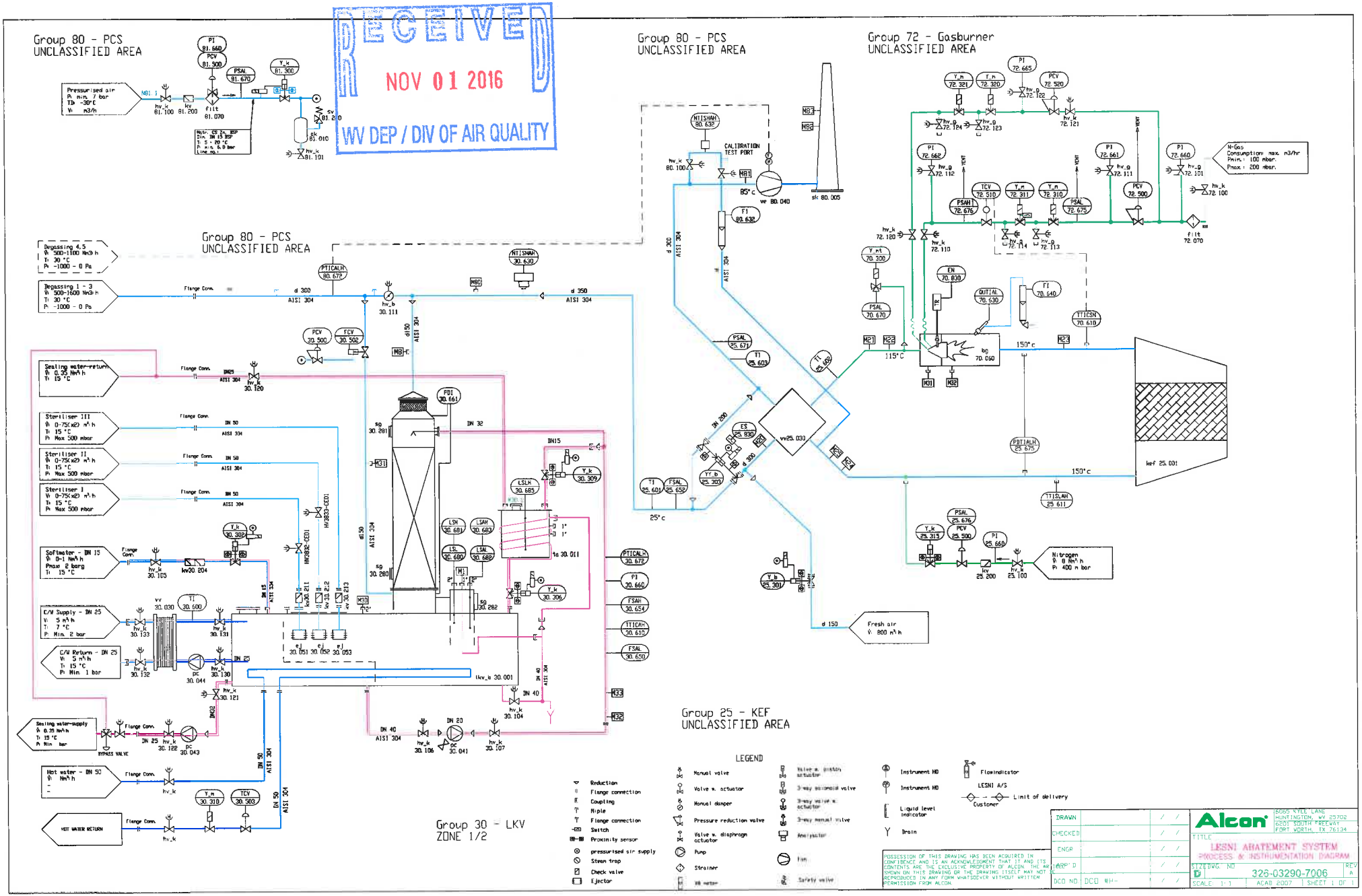
Efficiency obtained in the field may vary from the laboratory results because of the condition and operation of the oxidizer itself, so careful monitoring of the catalytic unit is recommended to ensure acceptable ethylene oxide removal is being attained.

general notes | key plan

no. | date | description

Project Manager
Project Engineer

ALCON RESEARCH, LTD
AO3C-N STERILIZER EXPANSION
STERILIZER #701



DRAWN			
CHECKED			
ENGR			
APP'D			
DCO NO.	DCO #H-		

Alcon
8065 KYLE LANE
HUNTINGTON, WV 25702
6201 SOUTH FREEWAY
FORT WORTH, TX 76134

TITLE
LESNI ABATEMENT SYSTEM
PROCESS & INSTRUMENTATION DIAGRAM

SIZE	DWG. NO	REV
D	326-03290-7006	A
SCALE: 1:1	ACAD 2007	SHEET 1 OF 1

Andrews, Edward S

From: Louden, Robbie <robbie.louden@alcon.com>
Sent: Monday, October 24, 2016 3:12 PM
To: Andrews, Edward S
Subject: RE: WV DAQ Permit Application Status for Alcon Research, Ltd.; Lesage

Hello Mr. Andrews,

I apologize for not returning your call, it seems my voicemail notice is not working properly.

I will get back to you shortly with answers to the questions listed below.

Thank you,
Robbie

Robbie Louden
Health, Safety & Environment

Alcon Research, LTD.
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Andrews, Edward S

From: Ward, Beth A
Sent: Tuesday, October 18, 2016 5:14 PM
To: Andrews, Edward S
Subject: ALCON RESEARCH LTD PERMIT APPLICATION FEE

This is the receipt for payment received from:

ALCON RESEARCH LTD, LESAGE, CHECK NUMBER 0000586322, CHECK DATE 10/11/2016, $4,500.00
R13-2820D ID# 011-00201

OASIS Deposit CR 1700042489

Thank You!

Beth Ward
WV DEPARTMENT OF ENVIRONMENTAL PROTECTION
BTO FISCAL
601 57TH STREET SE
CHARLESTON, WV 25304
(304) 926-0499 EXT 1846
beth.a.ward@wv.gov